The result of all this is, the pump works very imperfectly, and, if driven at anything like a proper speed, will not work at all: the clacks and joints are soon injured, and the whole apparatus is forthwith voted a waster.

Let us next see how this is to be remedied.

We must either by the general resort make one pump four to six times larger than it ought conveniently to be, and work it proportionably slower, or introduce an equally expensive application, and have three lesser pumps in neutral connection, driven by complicated machinery. By this latter arrangement we produce a continual stream in the suction and delivery pipes, and thus annihilate completely these two most provoking evils. My improved pump, alluded to by your correspondent, is designed to accomplish the same object in a much cheaper manner. Here we have the simple application of *one* single-acting pump instead of *three*, but producing "*a constant and undeviating stream*" throughout the entire length of the pipes,—hence its capability to fetch or force water any required distance, without shock or concussion.

The pump is thus enabled to work at a much higher velocity, without inconvenience, as the water is already in motion, and better able "instantly" to follow the ram,—and more effective, inasmuch as the pump gets completely filled at every stroke, and the plunger displaces its entire bulk of water without noise or shock, or any perceptible injury to the working parts.—W. E. CARRETT.

PUBLIC DRESSING ROOMS.

THERE is a new trade, for which the metropolis seems fully ripe; and one not unworthy the attention even of the capitalist: the necessity has for some time been growing; and the eventful circumstances of 1851 not merely suffice to afford a favourable opportunity for bringing it into operation, but they positively render it most urgently necessary.

When surface sewers were superseded by subterraneous ones, and raised and flagged *trottoirs* obviated the demarcation of the footway by means of posts, the calling of the street shoe-black in London died out; for its population was not then so dense, nor its traffic so great, as now,—conditions which would then have saved the occupation of the shoe-black, in spite of those other influences conspiring against him. In Paris he cannot yet be dispensed with, but manages to live on, even in competition with those shops in which the pedestrian can, for a trifle more, get his boots and trouser-feet made smart, in better style and with more comfort.

The shops referred to are fitted up with wall seats, at such height from the floor as that the operators can perform their avocation with ease,—an iron rail being provided for the feet, and serving also as a step for mounting the seat by: along these wall seats, and with their feet resting on these iron rails, the customers may be seen sitting in opposite rows; while men, similar in grade to the inferior attendants in our boot-warehouses, are busy polishing them off. To the Frenchman, who dines at the *table d'hôte* or the *restaurant*, and, when the duties of the day are over, solaces himself awhile at the *estaminet*, and then hies to the *Variétés*, or the *Comique*, without once entering his lodging since the morning, such places must be indispensable; and when it is considered how much the habits of a large portion of the male population of London are assimilated to those of Frenchmen, so far as regards living out, it will be obvious enough that similar accommodation in our metropolis could not fail to be appreciated.

In consequence, however, of Paris affording separately another description of accommodation, rendered necessary by the same habit of out-door life, and for which an outcry has been raised in London, which is becoming daily more and more urgent, the places proposed to be established should be of a more complete description than the mere shoe-blacking shop of Paris; and it is suggested that they should in every respect possess the requisites of "Public Dressing-rooms," or, as our French neighbours might term them, "Cabinets du Toilet,"—the hairdresser playing his part in the scene, equally ready to shave his customer, or to lend the instrument of his office to those having scruples at being taken by the nose.

That the system of living out will prevail in full force among the vast multitude who come to the Great Industrial Fair there cannot be a doubt; and the existence of such places of resort, apart from those of refreshment, would therefore prove a boon of high importance. The expense of fitting up and operation, considered with reference to the probable extent to which they would be encouraged, would, in all likelihood, render a very small charge per visit remunerative: as to their arrangement, it is a matter of detail unnecessary to be here entered into; but any shop having a saloon in the rear, with water-supply and drainage, would be capable of conversion to the purpose.

JAMES WYLSON.

METROPOLITAN COMMISSION OF SEWERS.

A SPECIAL general Court of Commissioners was held on Friday 28th ult. for the purpose of receiving the estimate of Mr. F. Forster, as to cost of drainage of northern portion of metropolis. The Lord Mayor took the chair. Mr. Forster, in submitting his detailed plan to the Commissioners, adopted their instructions, and divided the northern district into two separate areas, for which different means are required to be adopted. He presented his estimate for these works, which was read by Mr. Woolryeh, the secretary, and may be abridged as follows:—

ESTIMATE.

	Length. Miles.	Yards.	Cost. £
Main high level sewer from pumping-station, east of Lea, to western terminus at Grand Junction-road, Uxbridge-road	7	1,303	172,365
Branches: Hackney-brook branch, from junction at Cambridge-heath-road to Kentish-town	6	1,433	85,422
Coppice-row branch, to Baker-st.		1,152	6,659
Piccadilly branch, from Gray's-inn-road to St. James's-street, Piccadilly	1	1,606	18,968
Branch from Gray's-inn-road to river Fleet at Old St. Pancras-road	1	280	11,694
Branch from Rathbone-place to Park-crescent, New-road		1,617	8,881
Main low level sewer, from pumping-station, east of river Lea, to Park-walk, Chelsea (exclusive of Victoria-sewer, already finished)	7	1,040	221,667
Branches to main lower sewer, viz. branches to Isle of Dogs	4	260	44,745
Branches from Bridge-street, Westminster, and along Millbank	1	1,317	30,866
A branch from Grosvenor-canal into Fulham and Hammersmith district (its produce taken by Metropolitan Sewage Manure Company)	1	1,300	19,536
The extension of high and low level lines by two parallel sewers from pumping-station to outlet at Barking Creek, including aqueducts (two miles) over North Woolwich Railway, reservoir at Barking Creek, and outlets with penstocks, gates, and machinery, and also dwelling-houses for foreman and labourers	4	1,300	256,930
The pumping-engines at station east of Lea—viz. three 600-horse power engines, with houses, sheds, pumps, and machinery			98,800
Total miles	37	1,757	£966,162

Total length of sewers, 39 miles: about 15 miles through principal lines of thoroughfare, executed by tunnelling, and remainder mostly by open cutting. Expenses of land, houses, &c. not included in this estimate.

Sir H. De la Beche stated that application had already been made for the sewage for agricultural purposes. The expenses of the works would be distributed over a period of thirty years, at a rate of 3d. in the pound. The commission would require increased powers of borrowing the money required. Alderman Lawrence regretted the deficiency of the estimate as regarded compensation, &c. Lord Ebrington considered the estimate an engineering document. The estimate was approved. The gross amount required, exclusive of compensation, will be 1,080,000*l*.

BATHS AND WASHHOUSES IN SOUTHWARK.—The Vestry of St. George the Martyr have appointed a committee to inquire as to the adoption of the Act 9 & 10 Vict. c. 74, in that parish.

THE QUALIFICATIONS FOR THE INSTITUTE OF ARCHITECTS.

WILL you permit an old subscriber to your most admirable journal to call your attention, and that of the profession, to the present system of admitting to the degrees of Associate and Fellow of the Royal Institute of British Architects? Either the diploma it confers is, or is not, an honourable distinction: if it is, it should not be given to those who are utterly unworthy of it; and if it is not, then, in the name of common sense, of what use is it at all? Why the distinctions of student, associate, and fellow; why the farce of ballot; and why the "incorporation of 7 William 4?"

This reflection has been forced on me from the inspection of some designs submitted in competition not long since for a small public building: one of these was from a member of the Institute (for the names were attached to the plans), the others were not; and that from the "M.R.I.B.A." was not only the worst of all, but so despicably bad altogether, that I have no hesitation in saying it was never surpassed in badness in the palmy days of Compo and Bernasconi. That you may not think I exaggerate, I need only say that it included a Gothic hall about 30 feet by 60 feet, lighted by squat lancets 4 feet wide, with brick splayed jambs, and 14 inch walls, and you will be quite able to appreciate the *genus* of the production, and realize the deformity of everything else about it. I leave you, Sir, to comment on it: here is the fact; but I cannot help thinking that the Institute will gain but little respect in the estimation of true lovers of art, if they permit M.R.I.B.A. to be appended to such miserable abortions as these. Why cannot the diploma of the Institute be as honourable to an architect as that of the Royal Academy itself? Whose fault is it that it is not?

Its propriety was very much shocked that any one of its members should condescend to measure brickwork for a builder, and yet it gives its honours to those whose efforts the merest tyro who had a soul for art would shame.

I do not mean to say that no one should be admitted who had not carried out great works: far from it; but I do think that a body professing to be at the head of a fine art, should at least see, before it confers its titles on a man, that he is capable of making a decent design for an ordinary building. W.

THE SUPERSEDEMENT OF STEAM POWER.

NOTICES to quit have been so often unavailingly served upon this useful public servant, that one tires of giving heed to what steam itself seems to take so coolly; but really the threats to expel it by main force are following, so thick and fast, one on another, and there are so many startling realities amongst those "lying wonders" one is ever now in the midst of, that at length we should not wonder at all to find the field of steam, and such every-day material forces, occupied, all of a sudden, by others much more akin to those of ancient magic than of modern matter-of-fact. We have all heard of enchanted regions through which the boldest and most vigorous knights were prevented, by invisible forces, from advancing even a single step,—of magical circles which could not be broken either out of or into, and so on; but wonders such as these are already nothing extraordinary to any one who has witnessed Dr. Faraday's astonishing experiments in diamagnetism, in which invisible forces are actually shown to resist all endeavours to cleave the mere impassive air with the human arm, and to make such efforts both laborious and exhaustive, even without metallic intervention such as that of copper discs or swords or saws, the difficulty of cutting *the air* with which, the Doctor also illustrated in such a way as would astonish the most able-bodied sawyer, or most errant knight. In short, the suspension of Mahomet's coffin between earth and heaven, so well illustrated by the rise of the bar of iron into the centre of the electro-magnetic helix, and its suspension there in the air, to the

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